texture descriptions being gained with statistical methods, or by motion vectors at said specific node, said motion vectors being extracted from successive reference images.

Alternatively, the sub-bunch jets of the reference bunch graph or graphs may comprise only features which result from a reference graph.

In addition, the sub-bunch jets of the reference bunch graph or graphs may also comprise mixtures of these two above-mentioned features.

These different comparison functions permit a use-oriented optimization of the method in such a way that the highest possible recognition rate and the highest possible speed are achieved.

According to a preferred embodiment of the above-described method, a step can be provided according to which, after the recognition of each structure, the significance of the recognition is determined. For this purpose, an estimator can be used by way of example, said estimator taking into account the optimum graph comparison function as well as the non-optimum graph comparison function.

An estimator in the case of which the distance of the values of the non-optimum graph comparison functions from the value of the optimum graph comparison function is determined is particularly suitable for this purpose.

By means of these measures, object and structure recognition can be achieved and information on the quality of the structure recognition can be obtained as well.

According to another advantageous further development of the above-mentioned methods, each structure can be associated with the reference images corresponding to the reference graphs and/or the reference graphs from the reference bunch graphs for which the values of the graph comparison functions lie within a predetermined range. If the values do not lie within a predetermined range, this means that a structure cannot be identified sufficiently. Hence, this further development is suitable for cases of use where decisions

are to be taken on the basis of the recognition process, e.g. in the case of access control.

According to an advantageous embodiment, the colour information used in the above-described methods may comprise hue values and/or colour saturation values and/or intensity values determined from the reference image data and the image data, respectively.

Although the reference graphs and the reference bunch graphs, respectively, can be recalculated prior to each application, which will be expedient in the cases of use where the reference data change frequently, especially due to updating, it will be expedient in most cases of use that the step of providing the reference graphs and the reference bunch graphs, respectively, comprises fetching the reference graphs and the reference bunch graphs from a central data base and/or a decentralized data base, e.g. from chip cards.

According to a preferred embodiment, the net-like structure of the reference graph can be used in the above-described methods in the form of a regular grid whose nodes and links define rectangular meshes.

Alternatively, an irregular grid can be used as a net-like structure of the reference graph, the nodes and links of said irregular grid being adapted to the structure to be recognized. The nodes can have associated therewith characteristic points, so-called landmarks, of the structure to be recognized.

It follows that, in the case of this further development, the jets are determined at the characteristic points of the structure. This means that, when the image data and the reference data are compared, the characteristic points are primarily taken into account, whereby the significance with which a structure is recognized can be increased.

According to a preferred embodiment, Gabor filter functions and/or Mallat filter functions can be used in the above-described methods as class of filter functions for convolution

with the reference image data and image data, respectively, and/or as class of filter functions for convolution with the colour-segmented reference image data and image data, respectively.

According to a preferred embodiment of the above-described methods, the projection of the net-like structure of the specific reference graph and/or the specific reference bunch graph may comprises centering the reference graph and/or the specific reference bunch graph in the image.

In addition, it proved to be advantageous when the projection of the net-like structure of the specific reference graph and/or of the specific reference bunch graph comprises a displacement and/or rotation of the centered reference graph and of the centered reference bunch graph, respectively.

This will reduce the amount of time required for recognizing the structure.

In particular, the projection of the net-like structure of the specific reference graph and/or of the specific reference bunch graph may comprise scaling the centered reference graph and the centered reference bunch graph, respectively. This permits especially an increase in the significance and the speed of recognition, if the structure to be recognized differs in size in the image data and in the reference data.

The displacement and/or the rotation as well as the scaling of the centered reference graph and of the centered reference bunch graph, respectively, can in this case by carried out simultaneously, whereby the amount of time required for recognizing a structure can be reduced.

In addition, the projection of the net-like structure may comprise local distortions of the centered reference graph. This embodiment will be particularly suitable for cases where the image data and the reference data have been recorded at different recording angles.